

# METHOD OF MAKING ATOMIC INTEGRATED CIRCUIT DEVICE

## BACKGROUND OF THE INVENTION

The invention relates to methods of making an atomic integrated circuit devices and more particularly to methods of making improved, miniaturized atomic semiconductor integrated circuits devices.

### 1. Cross Reference to Related Applications

This application is a continuation-in-part of application Ser. No. 09/670,571 filed on September 27, 2000 now U.S. Pat. No. 6,599,781; and also of application Ser. No. 09/670,874 filed on September 27, 2000, <sup>now Patent No. 6,784,515</sup>

### 2. Field of the Invention

The invention relates to methods of making solid state integrated circuit devices and more particularly to methods of making improved, miniaturized semiconductor integrated circuits devices.

### 3. Background of the Invention

Shockley, Bardeen, and Brattain invented the transistor around 1950 and started the modern electronics age. Kilby and Noyce next combined active and passive components on a single chip and invented the integrated circuit. But even only several components were combined, the yield was low. Fairchild's Isoplanar technology (Fig. 1) made possible medium-scale and larger-scale integrated circuits in 1972 according to Peltzer's patent No. 3,648,125. Simultaneously, other similar dielectric isolation processes, such as Kooi's LOCOS (i.e., local oxide isolation technology) of Philip and Magdos's oxide-recessed technology of IBM, were also widely used.